

CLAIMS

1. A vehicle comprising:

a frame having a prime mover mounted thereon;

5 a hydrostatic pump unit mounted on the frame and comprising a pump housing having a top, bottom and plurality of sides, whereby the sides of the pump housing are generally perpendicular to the vehicle frame;

a pump end cap mounted on the top of the pump housing and having a pump running surface thereon;

10 a pair of hydraulic pumps mounted in the pump housing on the pump running surface;

a first pump input shaft drivingly engaged to one of the hydraulic pumps, the first pump input shaft having a first end extending out of the bottom of the pump housing and a second end extending through the end cap and out of the pump housing;

a fan mounted on the second end of the pump input shaft; and

15 a pulley mounted on the first end of the first pump input shaft and engaged to the prime mover, whereby the pulley is mounted on the vehicle closer to the ground than the fan.

2. A vehicle as set forth in Claim 1, wherein the pump housing is mounted on the frame at a location along the center line of the vehicle.

3. A vehicle as set forth in Claim 1, further comprising a first motor hydraulically connected 20 to one of the hydraulic pumps through a first set of hoses, and a second motor hydraulically connected to the other of the hydraulic pumps through a second set of hoses.

4. A vehicle as set forth in Claim 3, where the first and second sets of hoses each comprise two hoses that are approximately equal in length.

5. A vehicle as set forth in Claim 1, further comprising a first motor hydraulically connected to the pump unit through first and second hoses, and a second motor hydraulically connected to the pump unit through third and fourth hoses, wherein the first and third hoses are of generally identical length and the second and fourth hoses are of generally identical length.
- 5 6. A vehicle as set forth in Claim 1, further comprising at least one mounting flange mounted on the pump housing for securing the pump housing to the frame, wherein the at least one mounting flange is located on a side of the pump housing between the top and the bottom thereof.
7. A hydraulic drive apparatus for a vehicle having a prime mover and a pair of axles
10 mounted on a frame, the apparatus comprising
- a hydrostatic pump unit mounted on the frame and comprising a pump housing having a top and bottom;
- first and second hydraulic pumps rotatably mounted in the pump housing;
- a first pump input shaft drivingly engaged to the first hydraulic pump and having a first
15 end extending out of the bottom of the pump housing and drivingly engaged to the prime mover,
and a second end extending out of the top of the pump housing;
- a second input shaft drivingly engaged to the second hydraulic pump, wherein the second
input shaft is driven by the first input shaft, wherein the first and second input shafts are mounted
generally perpendicular to the vehicle axles;
- 20 a fan mounted on the second end of the pump input shaft; and
- a pulley mounted on the first end of the first pump input shaft and engaged to the prime
mover, whereby the pulley is mounted on the vehicle closer to the ground than the fan.

8. A hydraulic drive apparatus as set forth in Claim 1, further comprising at least one mounting flange mounted on the pump housing between the top and bottom thereof for securing the pump housing to the frame.
 9. A hydraulic pump unit for mounting on a frame of a vehicle having a prime mover, the pump unit comprising
 - a pump housing having a top, a bottom and a plurality of sides, and a pump chamber and a gear chamber formed therein;
 - first and second hydraulic pumps rotatably mounted in the pump chamber;
 - a gear set mounted in the gear chamber;
 10. a first pump input shaft drivingly engaged to the first hydraulic pump and having a first end extending out of the bottom of the pump housing and a second end extending out of the top of the pump housing, the first pump input shaft driving the gear set;
 11. a second input shaft drivingly engaged to the second hydraulic pump, wherein the second input shaft is driven by the gear set, and
 15. a mounting flange integrally formed with the pump housing for connecting the pump housing to the frame, where the mounting flange is located along the sides of the housing at a portion between the pump chamber and the gear chamber.
10. A hydraulic pump unit as set forth in Claim 9, further comprising a fan mounted on the second end of the pump input shaft.
 20. 11. A hydraulic pump unit as set forth in Claim 10, further comprising a pulley mounted on the first end of the first pump input shaft and engaged to the prime mover, whereby the pulley is mounted on the vehicle closer to the ground than the fan.

12. A hydraulic pump unit as set forth in Claim 11, wherein the first and second input shafts are mounted generally perpendicular to the vehicle axles.

13. A vehicle as set forth in Claim 12, wherein the pump housing is mounted on the frame at a location along the center line of the vehicle.

5 14. A vehicle as set forth in Claim 9, further comprising a first motor hydraulically connected to one of the hydraulic pumps through a first set of hoses of equal length, and a second motor hydraulically connected to the other of the hydraulic pumps through a second set of hoses of equal length.

10 15. A vehicle as set forth in Claim 9, further comprising a first motor hydraulically connected to the pump unit through first and second hoses, and a second motor hydraulically connected to the pump unit through third and fourth hoses, wherein the first and third hoses are of generally identical length and the second and fourth hoses are of generally identical length.